7 June 2013 │ 10 pages

Electric Utilities (GICS) │ Electric Utilities (Citi)
North America │ United States

Edison International (EIX)

SONGS Retirement: Floor Set; Overhangs Diminishing – Buy

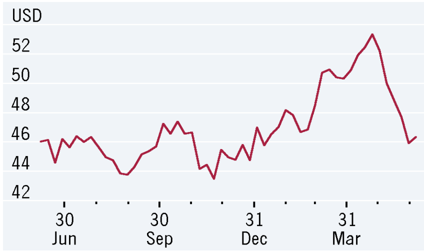
- Target Price Change
- Estimate Change

- **Clarity improving with SONGS decision; CPUC appears supportive and calling for settlement discussions – overhangs beginning to dissipate.** This morning, management announced that they would essentially mothball Units 2 and 3 of the San Onofre Generating Station which has been down since January 2012. While we are modestly surprised that Unit 2 is not returning to service (we assumed partial restart of Unit 2; mothballing of Unit 3), clearly the timing of a restart impacted the cost advantages, more than we anticipated, versus a full retirement. With ~$1mm/day accruing to shareholders to keep the plant ready for restart coupled with replacement power build, management made the strategic decision to retire the asset. We agree.
- **CPUC issues press release immediately following the announced closure of SONGS – favorable language calling for parties to settle.** CPUC President, Michael Peevey, issued a statement through the CPUC which: (1) appears supportive of the decision and more importantly, (2) is calling for all parties to work through a quick settlement – a speedy settlement is a further positive inflection point for the story, in our view. Even if the NRC approved the amended license agreement, the process could have gone through litigation at the Commission and the Court Of Appeals well into 2014 – placing undue pressure on the shares over the next 1-2 years. A copy of the CPUC press release is located at http://www.cpuc.ca.gov/puc/ .
- **We are adjusting our EPS outlook and valuation - share discount overly reflects this overhang - we reiterate Buy rating and see multiple expansion as this overhang continues to work itself through.** We are lowering our EPS estimates for 2013/2014/2015 to $3.40/3.48/$3.54 versus prior published $3.54/$3.66/$3.72, respectively, as we now remove the entire SONGS asset from rate base. Our 12 month target price drops to $58 from $61 which mainly accounts for the nuclear mothball. Additional impact to our EPS is a modest ST debt issuance in order to maintain the 48% equity layer with the removal of the asset from rate base. Our estimates continue to assume debt/preferred recovery versus the conservative floor presented by the company.

Continued on the page…

Buy	**1**
Price (07 Jun 13)	US$46.81
Target price	US$58.00
from US$61.00	
Expected share price return	23.9%
Expected dividend yield	2.9%
Expected total return	**26.8%**
Market Cap	US$15,251M

Price Performance
(RIC: EIX.N, BB: EIX US)



EPS	Q1	Q2	Q3	Q4	FY	FC Cons
2012A	0.36A	0.31A	0.71A	1.77A	3.14A	3.92A
2013E	**0.77A**	**0.66E**	**1.29E**	**0.66E**	**3.40E**	**3.53E**
Previous	0.77A	0.70E	1.36E	0.70E	3.54E	na
2014E	**0.76E**	**0.69E**	**1.34E**	**0.69E**	**3.48E**	**3.66E**
Previous	0.80E	0.73E	1.41E	0.73E	3.66E	na
2015E	**na**	**na**	**na**	**na**	**3.54E**	**3.67E**
Previous	na	na	na	na	3.72E	na

Source: Company Reports and dataCentral, Citi Research. FC Cons: First Call Consensus.

Shahriar (Shar) Pourreza, CFA
+1-212-816-7903
shahriar.pourreza@citi.com

See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

EIX.N: Fiscal year end 31-Dec — Price: US$46.81; TP: US$58.00; Market Cap: US$15,251m; Recomm: Buy

Profit & Loss (US$m)	2011	2012	2013E	2014E	2015E
Sales revenue	12,760	13,043	12,593	12,962	13,350
Cost of sales	-10,668	-11,069	-9,888	-10,158	-10,453
Gross profit	2,092	1,974	2,705	2,804	2,898
Gross Margin (%)	16.4	15.1	21.5	21.6	21.7
EBITDA (Adj)	**4,913**	**4,956**	**4,507**	**4,805**	**5,108**
EBITDA Margin (Adj) (%)	38.5	38.0	35.8	37.1	38.3
Depreciation	-1,737	-1,763	-2,104	-2,309	-2,524
Amortisation	0	0	0	0	0
EBIT (Adj)	**3,176**	**3,193**	**2,404**	**2,497**	**2,585**
EBIT Margin (Adj) (%)	24.9	24.5	19.1	19.3	19.4
Net interest	-771	-752	-537	-584	-644
Associates	86	43	0	0	0
Non-op/Except	-1,671	89	20	24	24
Pre-tax profit	**-264**	**1,354**	**1,887**	**1,937**	**1,965**
Tax	288	-28	-673	-696	-706
Extraord./Min.Int./Pref.div.	-61	-1,508	-96	-96	-96
Reported net profit	**-37**	**-182**	**1,118**	**1,145**	**1,163**
Net Margin (%)	-0.3	-1.4	8.9	8.8	8.7
Core NPAT	1,047	1,037	1,118	1,145	1,163
Per share data	**2011**	**2012**	**2013E**	**2014E**	**2015E**
Reported EPS ($)	-0.11	-0.55	3.40	3.48	3.54
Core EPS ($)	3.21	3.14	3.40	3.48	3.54
DPS ($)	1.28	1.30	1.35	1.55	1.75
CFPS ($)	11.98	12.02	10.65	11.40	12.11
FCFPS ($)	-2.77	-0.54	-2.11	-0.76	-1.88
BVPS ($)	30.84	28.67	30.68	32.61	34.39
Wtd avg ord shares (m)	326	330	329	329	329
Wtd avg diluted shares (m)	326	330	329	329	329
Growth rates	**2011**	**2012**	**2013E**	**2014E**	**2015E**
Sales revenue (%)	1.9	2.2	-3.5	2.9	3.0
EBIT (Adj) (%)	27.6	0.5	-24.7	3.9	3.5
Core NPAT (%)	-10.9	-1.0	7.8	2.4	1.6
Core EPS (%)	-9.5	-2.2	8.3	2.4	1.6
Balance Sheet (US$m)	**2011**	**2012**	**2013E**	**2014E**	**2015E**
Cash & cash equiv.	1,469	170	131	271	278
Accounts receivables	908	762	762	762	762
Inventory	624	340	340	340	340
Net fixed & other tangibles	32,116	30,273	32,369	34,061	36,137
Goodwill & intangibles	7,111	7,215	7,215	7,215	7,215
Financial & other assets	5,811	5,634	5,338	5,042	4,746
Total assets	**48,039**	**44,394**	**46,155**	**47,690**	**49,478**
Accounts payable	1,419	1,423	1,423	1,423	1,423
Short-term debt	486	175	175	175	175
Long-term debt	13,689	9,231	10,331	11,231	12,431
Provisions & other liab	21,359	22,374	22,374	22,374	22,374
Total liabilities	**36,953**	**33,203**	**34,303**	**35,203**	**36,403**
Shareholders' equity	11,084	11,191	11,852	12,487	13,075
Minority interests	2	0	0	0	0
Total equity	**11,086**	**11,191**	**11,852**	**12,487**	**13,075**
Net debt	**12,706**	**9,236**	**10,375**	**11,135**	**12,328**
Net debt to equity (%)	114.6	82.5	87.5	89.2	94.3

Valuation ratios	2011	2012	2013E	2014E	2015E
PE (x)	14.6	14.9	13.8	13.4	13.2
PB (x)	1.5	1.6	1.5	1.4	1.4
EV/EBITDA (x)	4.9	4.7	5.0	4.9	4.8
FCF yield (%)	-5.9	-1.2	-4.5	-1.6	-4.0
Dividend yield (%)	2.7	2.8	2.9	3.3	3.7
Payout ratio (%)	40	41	40	45	50
ROE (%)	-0.4	-1.9	11.5	11.0	10.6
Cashflow (US$m)	**2011**	**2012**	**2013E**	**2014E**	**2015E**
EBITDA	3,829	3,737	4,507	4,805	5,108
Working capital	-199	344	0	0	0
Other	276	-110	-1,002	-1,056	-1,126
Operating cashflow	**3,906**	**3,971**	**3,505**	**3,750**	**3,983**
Capex	-4,808	-4,149	-4,200	-4,000	-4,600
Net acq/disposals	0	0	0	0	0
Other	-125	-97	0	0	0
Investing cashflow	**-4,933**	**-4,246**	**-4,200**	**-4,000**	**-4,600**
Dividends paid	-417	-424	-444	-510	-576
Financing cashflow	**1,107**	**650**	**656**	**390**	**624**
Net change in cash	**80**	**375**	**-39**	**140**	**7**
Free cashflow to s/holders	**-902**	**-178**	**-695**	**-250**	**-617**

For further data queries on Citi's full coverage universe please contact Citi Research Data Services at CitiRsch.DataServices.Global@citi.com
For definitions of the items in this table, please click here.

Powered by: dataCentral

Annualizing for the impact of SONGS assuming no offsets or further recovery? Annualizing for the full year impact of SONGS and assuming no offsets (i.e. O&M) or recoveries, EPS reduction equates to ~$0.31/year – this is a highly unlikely scenario. This comprises of: (1) $0.26/share from the removal of the asset in rate base and no recovery for equity returns or debt/preferred funding costs and, (2) ~$0.05/share for the removal of AFUDC earnings on CWIP. For 2013 only, annualized transition costs (not expected to repeat in future years) equates to an additional ~$0.03/share. But going forward, assuming no O&M offsets and recovery for the asset, a highly unlikely scenario, EPS reduction could translate into ~$0.31/share – see next two paragraphs.

2013 mid point guidance lowered for the prorated amounts mentioned above. Management lowered 2013 EPS guidance range midpoint to $3.35 from $3.50 – the $0.15/share reduction accounts for the 3 items mentioned above, prorated for the remaining 7 months of 2013 with the first 5 months being reflected in financials.

2014 EPS impact (assuming no recovery of the equity returns in rate base and debt/preferred funding costs) should be lower than the $0.31/share mentioned above. Again, under the assumption that EIX does not get recovery for the equity returns or the debt/preferred funding costs, management could still negate the debt/preferred under-recovery (~$0.13/share) with O&M offsets. This leaves a $0.18/share reduction which is what we account for in 2014 with our newly reduced $3.48/share EPS estimate.

While the OII procedural schedule remains uncertain, Commissioner Peevey is calling for a speedy settlement – any settlement should be upside to the floor presented by EIX. CPUC President, Michael Peevey, issued a statement through the CPUC which: (1) appears supportive of the decision and more importantly, (2) is calling for all parties to work through a quick settlement – a speedy settlement is a further positive inflection point for the story, in our view. Even if the NRC approved the amended license agreement, the process could have gone through litigation at the Commission and the court of appeals well into 2014 – placing undue pressure on the shares over the next 1-2 years. A copy of the CPUC press release is located at http://www.cpuc.ca.gov/puc/. Key point, management essentially created a floor or a worse case scenario by assuming no recovery of debt/preferred funding costs as well a return on the equity so a settlement could provide upside to the floor presented by management. Under all scenarios, including ours, purchase power costs are assumed to be recovered which is a fair assumption under the *standard of prudence* and the *absence of negligence* – which we have highlighted in the past.

We assume no issuance of equity or change in dividend plans as a result of the news. This was reinforced by management on the call – a material positive in our view. We continue to forecast flat share count of 329mm with a dividend payout ratio of 39% for 2013/ 43% for 2014/ 48% for 2015 – based on our revised EPS outlook. We do issue a modest level of short term debt in 2014 to bring back the equity layer to 48%.

Management taking a pre-tax charge impairment charge of $450-$650mm. This amount could be revised up or down as new data is released in the proceedings. The charge is more of a function of GAAP accounting which tries to (using historical precedence from SONGS Unit 1, Navajo etc…) capture the likely probability that costs may not be recovered under a conservative scenario – which in this instance includes the lack of recovery of equity returns, debt/preferred funding costs and other various items including partial disallowed recovery of replacement parts for the worn-out tubes etc…

Rate base growth and focus on higher quality transmission assets remains a key strategic focus for management – 3Q Notice Of Intent (NOI) filing will provide some visibility. Management reiterated they still expect 7-8% rate base growth despite the removal of SONGS from rates and the lower annual CAPEX of $100mm attributed to the asset. The 2015 general rate case (we expect a notice of intent filing in Q3 2013), will provide much needed color on utility spending for the 2015-17 timeframe which will be adjusted for the decommissioning of SONGS. In this filing, we expect most of the reliability needs to be met with new and upgraded transmission and distribution spending with some IPP repowering opportunities which will not benefit EIX given the pass-through nature of purchase power costs.

Edison International

Company description

Edison International (EIX) is a holding company with both regulated and deregulated electric operations. The regulated subsidiary, Southern California Edison (SCE), operates in Southern California with a service territory of approximately 14 million people. The merchant holding company EMG and its primary subsidiary, Edison Mission Energy (EME), own or lease ~11,500 MWs of generation, with 7,100 MWs of coal-fired generation in Illinois and Pennsylvania. EME reached a support agreement with debt holders in December 2012 and filed for Chapter 11 bankruptcy protection. EME will transfer all equity ownership to the debt holders under the support agreement. The bankruptcy proceeding is ongoing.

Investment strategy

We rate EIX shares Buy (1). California electric utilities have historically traded at a premium to other regulated utilities given the State's constructive regulatory environment and above average allowed ROEs. On top of that, SCE received a final order on their general rate case in November 2012, setting rates through the end 2014 which removes some regulatory risk in the near term. Concerns over the merchant business have subsided given the agreement reached with the bondholders and the Chapter 11 filing. Shares appear to be overly discounting the above mentioned items.

Valuation

Our target price is $58. We value EIX shares using a PE multiple approach. Our 15.0x average target PE multiple we assign to regulated elected utilities is based on our BBB bond yield regression model. For EIX and other CA electric utilities, we assign a premium (1.5x) on the electric group average of 15.0x PE multiple to our consolidated 2015 EPS estimate of $3.54, which includes $(0.12) of parent drag. We continue to assign no equity value, positive or negative to EME which recently filed for bankruptcy. Our premium valuation for CA electric utilities attempts to capture the states above average regulatory environment.

Risks

Regulatory risk – Although SCE just recently received a final order on their general rate case and cost of capital proceeding, they will have to file again in late 2013 / early 2014 for the next GRC, which will set rates in 2015-17. If the GRC proceeding results in higher rate base than we assume, earnings could be higher than our current forecast and shares could outperform and exceed our target price.

SONGS – The SONGS nuclear plant has been offline since early 2012 due to degradation of the steam tubes. The NRC is currently reviewing EIX's plan to restart unit 2, and there is no plan to restart unit 3 at this time. In addition, the CPUC recently launched an order instituting investigation (OII) on the SONGS plant to determine the cause of the degradation and ultimate recovery of the asset. If the NRC does not allow the plant to be restarted, and the CPUC does not allow regulatory recovery of the asset, earnings could be materially reduced and the shares could underperform. The costs incurred to inspect and repair the plant have also been substantial so far, and to the extent they are not recovered, shares could underperform.

Appendix A-1

Analyst Certification

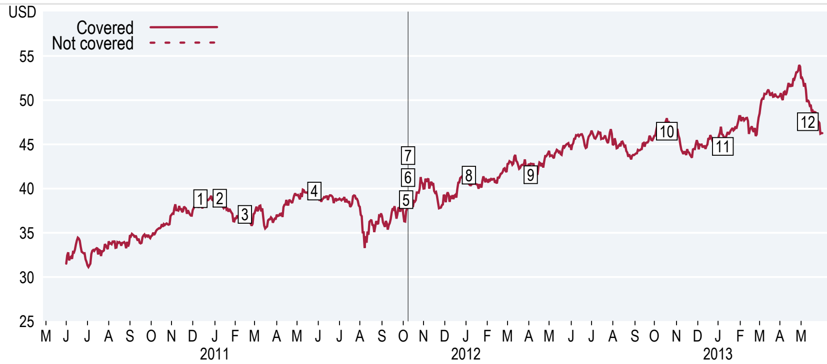
The research analyst(s) primarily responsible for the preparation and content of this research report are named in bold text in the author block at the front of the product except for those sections where an analyst's name appears in bold alongside content which is attributable to that analyst. Each of these analyst(s) certify, with respect to the section(s) of the report for which they are responsible, that the views expressed therein accurately reflect their personal views about each issuer and security referenced and were prepared in an independent manner, including with respect to Citigroup Global Markets Inc and its affiliates. No part of the research analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendation(s) or view(s) expressed by that research analyst in this report.

IMPORTANT DISCLOSURES

Edison International (EIX)

Ratings and Target Price History
Fundamental Research

Analyst: Shahriar (Shar) Pourreza, CFA
Covered since May 9 2013



	Date	Rating	Target Price	Closing Price
1	13-Dec-10	2M	*38.00	38.36
2	10-Jan-11	*3M	*35.00	38.13
3	15-Feb-11	*2M	*36.00	37.05
4	26-May-11	2M	*40.00	39.37

	Date	Rating	Target Price	Closing Price
5	6-Oct-11	*1M	*45.00	37.46
6	8-Oct-11	Stock rating system changed		
7	8-Oct-11	*1	45.00	37.74
8	5-Jan-12	1	*47.00	40.53

	Date	Rating	Target Price	Closing Price
9	4-Apr-12	1	*48.00	42.82
10	18-Oct-12	*2	*52.00	47.96
11	8-Jan-13	2	*49.00	46.08
12	10-May-13	*1	*61.00	50.01

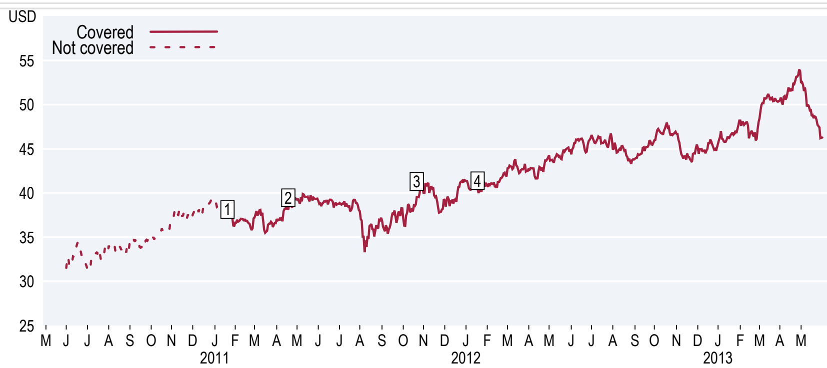
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Edison International (EIX)

Ratings and Target Price History
Best Ideas Research
Relative Call (3 Month)

Analyst: Shahriar (Shar) Pourreza, CFA
Covered since May 9 2013



	Date	Rating	Target Price	Closing Price
1	20-Jan-11	*ADD LP	-	37.70
2	19-Apr-11	*REM LP	-	38.18

	Date	Rating	Target Price	Closing Price
3	21-Oct-11	*ADD MP	-	39.56
4	18-Jan-12	*REM MP	-	40.44

* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Edison International

Citigroup Global Markets Inc. or its affiliates has received compensation for investment banking services provided within the past 12 months from Edison International.

Citigroup Global Markets Inc. or an affiliate received compensation for products and services other than investment banking services from Edison International in the past 12 months.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as investment banking client(s): Edison International.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as clients, and the services provided were non-investment-banking, securities-related: Edison International.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as clients, and the services provided were non-investment-banking, non-securities-related: Edison International.

Analysts' compensation is determined based upon activities and services intended to benefit the investor clients of Citigroup Global Markets Inc. and its affiliates ("the Firm"). Like all Firm employees, analysts receive compensation that is impacted by overall firm profitability which includes investment banking revenues.

For important disclosures (including copies of historical disclosures) regarding the companies that are the subject of this Citi Research product ("the Product"), please contact Citi Research, 388 Greenwich Street, 28th Floor, New York, NY, 10013, Attention: Legal/Compliance [E6WYB6412478]. In addition, the same important disclosures, with the exception of the Valuation and Risk assessments and historical disclosures, are contained on the Firm's disclosure website at https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures. Valuation and Risk assessments can be found in the text of the most recent research note/report regarding the subject company. Historical disclosures (for up to the past three years) will be provided upon request.

Citi Research Equity Ratings Distribution

	12 Month Rating			***Relative Rating***		
Data current as of 31 Mar 2013	**Buy**	**Hold**	**Sell**	**Buy**	**Hold**	**Sell**
Citi Research Global Fundamental Coverage	48%	39%	12%	7%	87%	7%
% of companies in each rating category that are investment banking clients	53%	49%	43%	65%	49%	51%

Guide to Citi Research Fundamental Research Investment Ratings:
Citi Research stock recommendations include an investment rating and an optional risk rating to highlight high risk stocks.
Risk rating takes into account both price volatility and fundamental criteria. Stocks will either have no risk rating or a High risk rating assigned.
Investment Ratings: Citi Research investment ratings are Buy, Neutral and Sell. Our ratings are a function of analyst expectations of expected total return ("ETR") and risk. ETR is the sum of the forecast price appreciation (or depreciation) plus the dividend yield for a stock within the next 12 months. The Investment rating definitions are: Buy (1) ETR of 15% or more or 25% or more for High risk stocks; and Sell (3) for negative ETR. Any covered stock not assigned a Buy or a Sell is a Neutral (2). For stocks rated Neutral (2), if an analyst believes that there are insufficient valuation drivers and/or investment catalysts to derive a positive or negative investment view, they may elect with the approval of Citi Research management not to assign a target price and, thus, not derive an ETR. Analysts may place covered stocks "Under Review" in response to exceptional circumstances (e.g. lack of information critical to the analyst's thesis) affecting the company and / or trading in the company's securities (e.g. trading suspension). As soon as practically possible, the analyst will publish a note re-establishing a rating and investment thesis. To satisfy regulatory requirements, we correspond Under Review and Neutral to Hold in our ratings distribution table for our 12-month fundamental rating system. However, we reiterate that we do not consider Under Review to be a recommendation.
Relative three-month ratings: Citi Research may also assign a three-month relative call (or rating) to a stock to highlight expected out-performance (most preferred) or under-performance (least preferred) versus the geographic and industry sector over a 3 month period. The relative call may highlight a specific near-term catalyst or event impacting the company or the market that is anticipated to have a short-term price impact on the equity securities of the company. Absent any specific catalyst the analyst(s) will indicate the most and least preferred stocks in the universe of stocks under consideration, explaining the basis for this short-term view. This three-month view may be different from and does not affect a stock's fundamental equity rating, which reflects a longer-term total absolute return expectation. For purposes of NASD/NYSE ratings-distribution-disclosure rules, most preferred calls correspond to a buy recommendation and least preferred calls correspond to a sell recommendation. Any stock not assigned to a most preferred or least preferred call is considered non-relative-rated (NRR). For purposes of NASD/NYSE ratings-distribution-disclosure rules we correspond NRR to Hold in our ratings distribution table for our 3-month relative rating system. However, we reiterate that we do not consider NRR to be a recommendation.

Prior to October 8, 2011, the firm's stock recommendation system included a risk rating and an investment rating. **Risk ratings,** which took into account both price volatility and fundamental criteria, were: Low (L), Medium (M), High (H), and Speculative (S). **Investment Ratings** of Buy, Hold and Sell were a function of the Citi Research expectation of total return (forecast price appreciation and dividend yield within the next 12 months) and risk rating. Additionally, analysts could have placed covered stocks "Under Review" in response to exceptional circumstances (e.g. lack of information critical to the analyst's thesis) affecting the company and/or trading in the company's securities (e.g. trading suspension). Stocks placed "Under Review" were monitored daily by management and as practically possible, the analyst published a note re-establishing a rating and investment thesis. For securities in developed markets (US, UK, Europe, Japan, and Australia/New Zealand), investment ratings were:Buy (1) (expected total return of 10% or more for Low-Risk stocks, 15% or more for Medium-Risk stocks, 20% or more for High-Risk stocks, and 35% or more for Speculative stocks); Hold (2) (0%-10% for Low-Risk stocks, 0%-15% for Medium-Risk stocks, 0%-20% for High-Risk stocks, and 0%-35% for Speculative stocks); and Sell (3) (negative total return). For securities in emerging markets (Asia Pacific, Emerging Europe/Middle East/Africa, and Latin America), investment ratings were:Buy (1) (expected total return of 15% or more for Low-Risk stocks, 20% or more for Medium-Risk stocks, 30% or more for High-Risk stocks, and 40% or more for Speculative stocks); Hold (2) (5%-15% for Low-Risk stocks, 10%-20% for Medium-Risk stocks, 15%-30% for High-Risk stocks, and 20%-40% for Speculative stocks); and Sell (3) (5% or less for Low-Risk stocks, 10% or less for Medium-Risk stocks, 15% or less for High-Risk stocks, and 20% or less for Speculative stocks).

Investment ratings are determined by the ranges described above at the time of initiation of coverage, a change in investment and/or risk rating, or a change in target price (subject to limited management discretion). At other times, the expected total returns may fall outside of these ranges because of market price movements and/or other short-term volatility or trading patterns. Such interim deviations from specified ranges will be permitted but will become subject to review by Research Management. Your decision to buy or sell a security should be based upon your personal investment objectives and should be made only after evaluating the stock's expected performance and risk.

NON-US RESEARCH ANALYST DISCLOSURES
Non-US research analysts who have prepared this report (i.e., all research analysts listed below other than those identified as employed by Citigroup Global Markets Inc.) are not registered/qualified as research analysts with FINRA. Such research analysts may not be associated persons of the member organization and therefore may not be subject to the NYSE Rule 472 and NASD Rule 2711 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account. The legal entities employing the authors of this report are listed below:

Citigroup Global Markets Inc	Shahriar (Shar) Pourreza, CFA

OTHER DISCLOSURES

The subject company's share price set out on the front page of this Product is quoted as at 07 June 2013 09:54 AM on the issuer's primary market.

Citigroup Global Markets Inc. and/or its affiliates has a significant financial interest in relation to Edison International. (For an explanation of the determination of significant financial interest, please refer to the policy for managing conflicts of interest which can be found at www.citiVelocity.com.)

For securities recommended in the Product in which the Firm is not a market maker, the Firm is a liquidity provider in the issuers' financial instruments and may act as principal in connection with such transactions. The Firm is a regular issuer of traded financial instruments linked to securities that may have been recommended in the Product. The Firm regularly trades in the securities of the issuer(s) discussed in the Product. The Firm may engage in securities transactions in a manner inconsistent with the Product and, with respect to securities covered by the Product, will buy or sell from customers on a principal basis.

Securities recommended, offered, or sold by the Firm: (i) are not insured by the Federal Deposit Insurance Corporation; (ii) are not deposits or other obligations of any insured depository institution (including Citibank); and (iii) are subject to investment risks, including the possible loss of the principal amount invested. Although information has been obtained from and is based upon sources that the Firm believes to be reliable, we do not guarantee its accuracy and it may be incomplete and condensed. Note, however, that the Firm has taken all reasonable steps to determine the accuracy and completeness of the disclosures made in the Important Disclosures section of the Product. The Firm's research department has received assistance from the subject company(ies) referred to in this Product including, but not limited to, discussions with management of the subject company(ies). Firm policy prohibits research analysts from sending draft research to subject companies. However, it should be presumed that the author of the Product has had discussions with the subject company to ensure factual accuracy prior to publication. All opinions, projections and estimates constitute the judgment of the author as of the date of the Product and these, plus any other information contained in the Product, are subject to change without notice. Prices and availability of financial instruments also are subject to change without notice. Notwithstanding other departments within the Firm advising the companies discussed in this Product, information obtained in such role is not used in the preparation of the Product. Although Citi Research does not set a predetermined frequency for publication, if the Product is a fundamental research report, it is the intention of Citi Research to provide research coverage of the/those issuer(s) mentioned therein, including in response to news affecting this issuer, subject to applicable quiet periods and capacity constraints. The Product is for informational purposes only and is not intended as an offer or solicitation for the purchase or sale of a security. Any decision to purchase securities mentioned in the Product must take into account existing public information on such security or any registered prospectus.

Investing in non-U.S. securities, including ADRs, may entail certain risks. The securities of non-U.S. issuers may not be registered with, nor be subject to the reporting requirements of the U.S. Securities and Exchange Commission. There may be limited information available on foreign securities. Foreign companies are generally not subject to uniform audit and reporting standards, practices and requirements comparable to those in the U.S. Securities of some foreign companies may be less liquid and their prices more volatile than securities of comparable U.S. companies. In addition, exchange rate movements may have an adverse effect on the value of an investment in a foreign stock and its corresponding dividend payment for U.S. investors. Net dividends to ADR investors are estimated, using withholding tax rates conventions, deemed accurate, but investors are urged to consult their tax advisor for exact dividend computations. Investors who have received the Product from the Firm may be prohibited in certain states or other jurisdictions from purchasing securities mentioned in the Product from the Firm. Please ask your Financial Consultant for additional details. Citigroup Global Markets Inc. takes responsibility for the Product in the United States. Any orders by US investors resulting from the information contained in the Product may be placed only through Citigroup Global Markets Inc.

Important Disclosures for Morgan Stanley Smith Barney LLC Customers: Morgan Stanley & Co. LLC (Morgan Stanley) research reports may be available about the companies that are the subject of this Citi Research research report. Ask your Financial Advisor or use smithbarney.com to view any available Morgan Stanley research reports in addition to Citi Research research reports.
Important disclosure regarding the relationship between the companies that are the subject of this Citi Research research report and Morgan Stanley Smith Barney LLC and its affiliates are available at the Morgan Stanley Wealth Management disclosure website at www.morganstanley.com/online/researchdisclosures.
For Morgan Stanley and Citigroup Global Markets, Inc. specific disclosures, you may refer to www.morganstanley.com/researchdisclosures and https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures.
This Citi Research research report has been reviewed and approved on behalf of Morgan Stanley Smith Barney LLC. This review and approval was conducted by the same person who reviewed this research report on behalf of Citi Research. This could create a conflict of interest.

The Citigroup legal entity that takes responsibility for the production of the Product is the legal entity which the first named author is employed by. The Product is made available in **Australia** through Citi Global Markets Australia Pty Ltd. (ABN 64 003 114 832 and AFSL No. 240992), participant of the ASX Group and regulated by the Australian Securities & Investments Commission. Citigroup Centre, 2 Park Street, Sydney, NSW 2000. The Product is made available in Australia to Private Banking wholesale clients through Citigroup Pty Limited (ABN 88 004 325 080 and AFSL 238098). Citigroup Pty Limited provides all financial product advice to Australian Private Banking wholesale clients through bankers and relationship managers. If there is any doubt about the suitability of investments held in Citigroup Private Bank accounts, investors should contact the Citigroup Private Bank in Australia. Citigroup companies may compensate affiliates and their representatives for providing products and services to clients. The Product is made available in **Brazil** by Citigroup Global Markets Brasil - CCTVM SA, which is regulated by CVM - Comissão de Valores Mobiliários, BACEN - Brazilian Central Bank, APIMEC - Associação dos Analistas e Profissionais de Investimento do Mercado de Capitais and ANBID - Associação Nacional dos Bancos de Investimento. Av. Paulista, 1111 - 11º andar - CEP. 01311920 - São Paulo - SP. If the Product is being made available in certain provinces of **Canada** by Citigroup Global Markets (Canada) Inc. ("CGM Canada"), CGM Canada has approved the Product. Citigroup Place, 123 Front Street West, Suite 1100, Toronto, Ontario M5J 2M3. This product is available in **Chile** through Banchile Corredores de Bolsa S.A., an indirect subsidiary of Citigroup Inc., which is regulated by the Superintendencia de Valores y Seguros. Agustinas 975, piso 2, Santiago, Chile. The Product is made available in **France** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. 1-5 Rue Paul Cézanne, 8ème, Paris, France. The Product is distributed in **Germany** by Citigroup Global Markets Deutschland AG ("CGMD"), which is regulated by Bundesanstalt fuer Finanzdienstleistungsaufsicht (BaFin). CGMD, Reuterweg 16, 60323 Frankfurt am Main. Research which relates to "securities" (as defined in the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong)) is issued in **Hong Kong** by, or on behalf of, Citigroup Global Markets Asia Limited which takes full responsibility for its content. Citigroup Global Markets Asia Ltd. is regulated by Hong Kong Securities and Futures Commission. If the Research is made available through Citibank, N.A., Hong Kong Branch, for its clients in Citi Private Bank, it is made available by Citibank N.A., Citibank Tower, Citibank Plaza, 3 Garden Road, Hong Kong. Citibank N.A. is regulated by the Hong Kong Monetary Authority. Please contact your Private Banker in Citibank N.A., Hong Kong, Branch if you have any queries on

or any matters arising from or in connection with this document. The Product is made available in **India** by Citigroup Global Markets India Private Limited, which is regulated by Securities and Exchange Board of India. Bakhtawar, Nariman Point, Mumbai 400-021. The Product is made available in **Indonesia** through PT Citigroup Securities Indonesia. 5/F, Citibank Tower, Bapindo Plaza, Jl. Jend. Sudirman Kav. 54-55, Jakarta 12190. Neither this Product nor any copy hereof may be distributed in Indonesia or to any Indonesian citizens wherever they are domiciled or to Indonesian residents except in compliance with applicable capital market laws and regulations. This Product is not an offer of securities in Indonesia. The securities referred to in this Product have not been registered with the Capital Market and Financial Institutions Supervisory Agency (BAPEPAM-LK) pursuant to relevant capital market laws and regulations, and may not be offered or sold within the territory of the Republic of Indonesia or to Indonesian citizens through a public offering or in circumstances which constitute an offer within the meaning of the Indonesian capital market laws and regulations. The Product is made available in **Israel** through Citibank NA, regulated by the Bank of Israel and the Israeli Securities Authority. Citibank, N.A, Platinum Building, 21 Ha'arba'ah St, Tel Aviv, Israel. The Product is made available in **Italy** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. Via dei Mercanti, 12, Milan, 20121, Italy. The Product is made available in **Japan** by Citigroup Global Markets Japan Inc. ("CGMJ"), which is regulated by Financial Services Agency, Securities and Exchange Surveillance Commission, Japan Securities Dealers Association, Tokyo Stock Exchange and Osaka Securities Exchange. Shin-Marunouchi Building, 1-5-1 Marunouchi, Chiyoda-ku, Tokyo 100-6520 Japan. If the Product was distributed by SMBC Nikko Securities Inc. it is being so distributed under license. In the event that an error is found in an CGMJ research report, a revised version will be posted on the Firm's Citi Velocity website. If you have questions regarding Citi Velocity, please call (81 3) 6270-3019 for help. The Product is made available in **Korea** by Citigroup Global Markets Korea Securities Ltd., which is regulated by the Financial Services Commission, the Financial Supervisory Service and the Korea Financial Investment Association (KOFIA). Citibank Building, 39 Da-dong, Jung-gu, Seoul 100-180, Korea. KOFIA makes available registration information of research analysts on its website. Please visit the following website if you wish to find KOFIA registration information on research analysts of Citigroup Global Markets Korea Securities Ltd. http://dis.kofia.or.kr/fs/dis2/fundMgr/DISFundMgrAnalystPop.jsp?companyCd2=A03030&pageDiv=02. The Product is made available in Korea by Citibank Korea Inc., which is regulated by the Financial Services Commission and the Financial Supervisory Service. Address is Citibank Building, 39 Da-dong, Jung-gu, Seoul 100-180, Korea. The Product is made available in **Malaysia** by Citigroup Global Markets Malaysia Sdn Bhd (Company No. 460819-D) ("CGMM") to its clients and CGMM takes responsibility for its contents. CGMM is regulated by the Securities Commission of Malaysia. Please contact CGMM at Level 43 Menara Citibank, 165 Jalan Ampang, 50450 Kuala Lumpur, Malaysia in respect of any matters arising from, or in connection with, the Product. The Product is made available in **Mexico** by Acciones y Valores Banamex, S.A. De C. V., Casa de Bolsa, Integrante del Grupo Financiero Banamex ("Accival") which is a wholly owned subsidiary of Citigroup Inc. and is regulated by Comision Nacional Bancaria y de Valores. Reforma 398, Col. Juarez, 06600 Mexico, D.F. In **New Zealand** the Product is made available to 'wholesale clients' only as defined by s5C(1) of the Financial Advisers Act 2008 ('FAA') through Citigroup Global Markets Australia Pty Ltd (ABN 64 003 114 832 and AFSL No. 240992), an overseas financial adviser as defined by the FAA, participant of the ASX Group and regulated by the Australian Securities & Investments Commission. Citigroup Centre, 2 Park Street, Sydney, NSW 2000. The Product is made available in **Pakistan** by Citibank N.A. Pakistan branch, which is regulated by the State Bank of Pakistan and Securities Exchange Commission, Pakistan. AWT Plaza, 1.1. Chundrigar Road, P.O. Box 4889, Karachi-74200. The Product is made available in the **Philippines** through Citicorp Financial Services and Insurance Brokerage Philippines, Inc., which is regulated by the Philippines Securities and Exchange Commission. 20th Floor Citibank Square Bldg. The Product is made available in the Philippines through Citibank NA Philippines branch, Citibank Tower, 8741 Paseo De Roxas, Makati City, Manila. Citibank NA Philippines NA is regulated by The Bangko Sentral ng Pilipinas. The Product is made available in **Poland** by Dom Maklerski Banku Handlowego SA an indirect subsidiary of Citigroup Inc., which is regulated by Komisja Nadzoru Finansowego. Dom Maklerski Banku Handlowego S.A. ul.Senatorska 16, 00-923 Warszawa. The Product is made available in the **Russian Federation** through ZAO Citibank, which is licensed to carry out banking activities in the Russian Federation in accordance with the general banking license issued by the Central Bank of the Russian Federation and brokerage activities in accordance with the license issued by the Federal Service for Financial Markets. Neither the Product nor any information contained in the Product shall be considered as advertising the securities mentioned in this report within the territory of the Russian Federation or outside the Russian Federation. The Product does not constitute an appraisal within the meaning of the Federal Law of the Russian Federation of 29 July 1998 No. 135-FZ (as amended) On Appraisal Activities in the Russian Federation. 8-10 Gasheka Street, 125047 Moscow. The Product is made available in **Singapore** through Citigroup Global Markets Singapore Pte. Ltd. ("CGMSPL"), a capital markets services license holder, and regulated by Monetary Authority of Singapore. Please contact CGMSPL at 8 Marina View, 21st Floor Asia Square Tower 1, Singapore 018960, in respect of any matters arising from, or in connection with, the analysis of this document. This report is intended for recipients who are accredited, expert and institutional investors as defined under the Securities and Futures Act (Cap. 289). The Product is made available by The Citigroup Private Bank in Singapore through Citibank, N.A., Singapore Branch, a licensed bank in Singapore that is regulated by Monetary Authority of Singapore. Please contact your Private Banker in Citibank N.A., Singapore Branch if you have any queries on or any matters arising from or in connection with this document. This report is intended for recipients who are accredited, expert and institutional investors as defined under the Securities and Futures Act (Cap. 289). This report is distributed in Singapore by Citibank Singapore Ltd ("CSL") to selected Citigold/Citigold Private Clients. CSL provides no independent research or analysis of the substance or in preparation of this report. Please contact your Citigold//Citigold Private Client Relationship Manager in CSL if you have any queries on or any matters arising from or in connection with this report. This report is intended for recipients who are accredited investors as defined under the Securities and Futures Act (Cap. 289). Citigroup Global Markets (Pty) Ltd. is incorporated in the **Republic of South Africa** (company registration number 2000/025866/07) and its registered office is at 145 West Street, Sandton, 2196, Saxonwold. Citigroup Global Markets (Pty) Ltd. is regulated by JSE Securities Exchange South Africa, South African Reserve Bank and the Financial Services Board. The investments and services contained herein are not available to private customers in South Africa. The Product is made available in **Spain** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. 29 Jose Ortega Y Gasset, 4th Floor, Madrid, 28006, Spain. The Product is made available in the **Republic of China** through Citigroup Global Markets Taiwan Securities Company Ltd. ("CGMTS"), 14 and 15F, No. 1, Songzhi Road, Taipei 110, Taiwan and/or through Citibank Securities (Taiwan) Company Limited ("CSTL"), 14 and 15F, No. 1, Songzhi Road, Taipei 110, Taiwan, subject to the respective license scope of each entity and the applicable laws and regulations in the Republic of China. CGMTS and CSTL are both regulated by the Securities and Futures Bureau of the Financial Supervisory Commission of Taiwan, the Republic of China. No portion of the Product may be reproduced or quoted in the Republic of China by the press or any third parties [without the written authorization of CGMTS and CSTL]. If the Product covers securities which are not allowed to be offered or traded in the Republic of China, neither the Product nor any information contained in the Product shall be considered as advertising the securities or making recommendation of the securities in the Republic of China. The Product is for informational purposes only and is not intended as an offer or solicitation for the purchase or sale of a security or financial products. Any decision to purchase securities or financial products mentioned in the Product must take into account existing public information on such security or the financial products or any registered prospectus. The Product is made available in **Thailand** through Citicorp Securities (Thailand) Ltd.,

which is regulated by the Securities and Exchange Commission of Thailand. 18/F, 22/F and 29/F, 82 North Sathorn Road, Silom, Bangrak, Bangkok 10500, Thailand. The Product is made available in **Turkey** through Citibank AS which is regulated by Capital Markets Board. Tekfen Tower, Eski Buyukdere Caddesi # 209 Kat 2B, 23294 Levent, Istanbul, Turkey. In the **U.A.E**, these materials (the "Materials") are communicated by Citigroup Global Markets Limited, DIFC branch ("CGML"), an entity registered in the Dubai International Financial Center ("DIFC") and licensed and regulated by the Dubai Financial Services Authority ("DFSA") to Professional Clients and Market Counterparties only and should not be relied upon or distributed to Retail Clients. A distribution of the different Citi Research ratings distribution, in percentage terms for Investments in each sector covered is made available on request. Financial products and/or services to which the Materials relate will only be made available to Professional Clients and Market Counterparties. The Product is made available in **United Kingdom** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. This material may relate to investments or services of a person outside of the UK or to other matters which are not regulated by the FSA and further details as to where this may be the case are available upon request in respect of this material. Citigroup Centre, Canada Square, Canary Wharf, London, E14 5LB. The Product is made available in **United States** by Citigroup Global Markets Inc, which is a member of FINRA and registered with the US Securities and Exchange Commission. 388 Greenwich Street, New York, NY 10013. Unless specified to the contrary, within EU Member States, the Product is made available by Citigroup Global Markets Limited, which is regulated by Financial Services Authority.

Pursuant to Comissão de Valores Mobiliários Rule 483, Citi is required to disclose whether a Citi related company or business has a commercial relationship with the subject company. Considering that Citi operates multiple businesses in more than 100 countries around the world, it is likely that Citi has a commercial relationship with the subject company.

Many European regulators require that a firm must establish, implement and make available a policy for managing conflicts of interest arising as a result of publication or distribution of investment research. The policy applicable to Citi Research's Products can be found at https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures.

Compensation of equity research analysts is determined by equity research management and Citigroup's senior management and is not linked to specific transactions or recommendations.

The Product may have been distributed simultaneously, in multiple formats, to the Firm's worldwide institutional and retail customers. The Product is not to be construed as providing investment services in any jurisdiction where the provision of such services would not be permitted.

Subject to the nature and contents of the Product, the investments described therein are subject to fluctuations in price and/or value and investors may get back less than originally invested. Certain high-volatility investments can be subject to sudden and large falls in value that could equal or exceed the amount invested. Certain investments contained in the Product may have tax implications for private customers whereby levels and basis of taxation may be subject to change. If in doubt, investors should seek advice from a tax adviser. The Product does not purport to identify the nature of the specific market or other risks associated with a particular transaction. Advice in the Product is general and should not be construed as personal advice given it has been prepared without taking account of the objectives, financial situation or needs of any particular investor. Accordingly, investors should, before acting on the advice, consider the appropriateness of the advice, having regard to their objectives, financial situation and needs. Prior to acquiring any financial product, it is the client's responsibility to obtain the relevant offer document for the product and consider it before making a decision as to whether to purchase the product.

With the exception of our product that is made available only to Qualified Institutional Buyers (QIBs) and other product that is made available through other distribution channels only to certain categories of clients to satisfy legal or regulatory requirements, Citi Research concurrently disseminates its research via proprietary and non-proprietary electronic distribution platforms. Periodically, individual Citi Research analysts may also opt to circulate research posted on such platforms to one or more clients by email. Such email distribution is discretionary and is done only after the research has been disseminated via the aforementioned distribution channels. Citi Research simultaneously distributes product that is limited to QIBs only through email distribution.

The level and types of services provided by Citi Research analysts to clients may vary depending on various factors such as the client's individual preferences as to the frequency and manner of receiving communications from analysts, the client's risk profile and investment focus and perspective (e.g. market-wide, sector specific, long term, short-term etc.), the size and scope of the overall client relationship with Citi and legal and regulatory constraints.

Citi Research product may source data from dataCentral. dataCentral is a Citi Research proprietary database, which includes Citi estimates, data from company reports and feeds from Reuters and Datastream.

ADDITIONAL INFORMATION IS AVAILABLE UPON REQUEST